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| 60683 7590 09/17/2007<br>HEALTH HERO NETWORK, INC.<br>2400 GENG ROAD, SUITE 200<br>PALO ALTO, CA 94303 |             |                      | EXAMINER<br>KOPPIKAR, VIVEK D |                        |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Interview Summary

Application No.

09/810,334

Applicant(s)

BROWN, STEPHEN J.

Examiner

Vivek D. Koppikar

Art Unit

3626

All participants (applicant, applicant's representative, PTO personnel):

(1) Vivek D. Koppikar.

(3) \_\_\_\_\_.

(2) John Ignatoski.

(4) \_\_\_\_\_.

Date of Interview: 11 September 2007.

Type: a) ☒ Telephonic b) ☐ Video Conference

c) ☐ Personal [copy given to: 1) ☐ applicant 2) ☐ applicant's representative]

Exhibit shown or demonstration conducted: d) ☐ Yes e) ☒ No.

If Yes, brief description: \_\_\_\_\_.

Claim(s) discussed: N/A.

Identification of prior art discussed: N/A.

Agreement with respect to the claims f) ☐ was reached. g) ☐ was not reached. h) ☒ N/A.

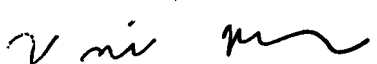
Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: The Office agreed to withdraw the finality of the Office Action which was mailed on July 26, 2007 and the Office is also providing a copy of the provisional patent application of the Mayer pre-grant publication.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN A NON-EXTENDABLE PERIOD OF THE LONGER OF ONE MONTH OR THIRTY DAYS FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

  
JEFFREY A. SMITH  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3600

Examiner Note: You must sign this form unless it is an Attachment to a signed Office action.

  
Examiner's signature, if required

# SYSTEM AND METHOD FOR ELECTRONIC HEALTH MANAGEMENT

“eHMO”

by

Gregg L. Mayer PhD

Philip J. Eulie MD

## **Background and Summary of the Invention**

No one is actively *managing* an individual's health care. Patients are not in control of their health care encounters; individual providers (physicians and other professionals) and payers (HMOs (health *maintenance* organizations) and health insurance companies are those in control. Yet the tools and focus of these organizations are directed towards population management, not managing the specific health care needs of individuals. Patients, individually, have a greater incentive to properly manage their health than any payer or provider.

At the same time, no one is storing a complete central database of an individual's health care information. Each payer and provider has their own database of patient encounter data, but these are driven by reimbursement and legal needs. It is even arguable whether a patient wants anyone but him/herself to have a complete set of their data. In any case, patients are the only ones currently capable of gathering and storing a complete set of their own health care information from all providers and encounters.

We have developed a set of software tools that can be used by the consumer (patient) to take charge of their health care, much like Quicken has let consumers take charge of their finance, or Palm Pilot software has let them take charge of their schedules and contacts.

One aspect of our invention is to provide availability of our software on the Internet to allow users to access it anywhere and to provide a safe and secure backup of all information entered. In addition, use of the “tools” will allow collection of a master set of data on all health care encounters, that will always be accessible to the patient and any provider(s) that he/she wishes to share it with. We have developed a series of

business models for how these tools can be distributed over the internet in a new business, that we refer to as an e-HMO, an "Electronic Health Management Organization". We believe ours to be the first in the health care industry to have conceived of this set of tools applied by the business models presented.

Unlike conventional businesses that are merely "put" on the Internet, such as a magazine or drugstore, the present invention is a business that is enabled by the Internet. For example, the Internet enables real time comparison of an individual's data to databases. These databases are constantly updated and populated, allowing for real time comparisons of increased accuracy and reliability

Current Internet-type businesses such as a content provider or an e-zine on health relate primarily to consumer-oriented needs such as online stores selling OTC drugs or supplements, or electronic medical records company. In the latter case, the electronic data is primarily for the use of payers and providers.

Another type are electronic claims processing business; which try to automate the back office process of physicians and hospitals. Current informational sites include health care entertainment sites which offer gimmicky calculators about body mass index or how much exercise is needed to walk off a piece of chocolate cake. However, those services are limited in what they provide and are directed at serving short-term or temporary consumer medical needs. The present invention includes more comprehensive tools that can be used for a lifetime.

### **Brief Description of the Drawings**

Figure 1 is a system diagram of the present invention.

Figure 2 is a flow diagram for obtaining medical information from a database according to one embodiment of the invention.

Figure 3 is a schematic diagram illustrating the events occurring in a user encounter according to one embodiment of the invention.

## **Description of the Invention**

The present invention provides a system and method of an electronic healthcare management organization (eHMO). eHMO is a business model based on a group of software tools that allow health care consumers to manage their own health and record their health history in one place. This will be accomplished with a series of specific tools that can be selected on the eHMO website. A “toolkit” can be comprised of one or more software tools.

As used herein, the term “tool” refers to a code sequence or portion of software that enables a user to accomplish a task. A tool may or may not require extra programming or additional code to be added by the user.

One example of the basic components of a toolkit are:

- A. **A patient database** – This is the core tool of eHMO, which could be identified, for example, by calling it “*OurHealthHistory*”. As consumers use our other tools, they enter data, all of which are stored in a safe and secure central location. These data are used over and over again, so that the consumer never has to enter the same data twice. As the consumer uses the tools more often, their individual database grows, and over time will become a central health record. Unlike the medical records in doctor’s offices, this information is understandable by the patient, centrally located, and can include information not usually captured by the physician’s medical record, such as diet, lifestyle, work-related, or other personal information. Unlike information in the medical record, this information is accessible only to the patient, or those to whom the patient wishes to make it available. Medical records and other private information at the doctor’s office are often made available to insurance companies, prescription benefits managers, and others.
- B. **A series of logic algorithms that comprise each tool (i.e. the software)** - Users select the tool they want to use on the eHMO website. They are prompted to enter answers to a series of specific questions, which is unique and related to the purpose of each tool. Depending on their answers, further questions are asked. In this way, patients are led through a defined, logic driven series of questions and answers. With

some tools, answers may also be compared to one of a number of other databases, as described below. The collection of answers, some free text, some calculated, and some chosen from multiple choice lists, will form the result or answer to the question the patient is seeking with the tool. A report writer, as defined below, can generate written reports.

- C. **A variety of other databases used by the tools** - Databases of a variety of sources such as standard medical practices, guidelines, and outcomes, insurance and reimbursement information, satisfaction survey results, etc. are used as standards of comparison for the logic algorithm tools above. The type of database is dependent on the purpose of the tool. In addition there is a database of all other users' individual data and results, with individual identifiers removed. Using this database, consumers can compare their results and health to a group of their peers, in an anonymous and confidential manner.
- D. **A report writer (also a piece of software or tool)** -Users can select from a variety of report formats for printing hard copy of specific results or for compiling summaries of their health records. This "report" could be for their own use or to give to a provider.

Since the patient's individual database, algorithms, and other databases are always being updated from the latest information and are linked by a network, such as the Internet or an Intranet. Additionally, these tools are ideal as an Internet application. It would be impossible to provide the same level of service without real time access to a network, such as the Internet or an intranet. This is in stark contrast to many of the current health sites that are merely duplicating products and services available off the net such as content (readily available from hospital libraries) products (readily available from drugstores) or referral services (readily available by telephone).

An exemplary list of the specific tools included in the present invention and their working names are described below.

**First generation tools used to help the consumer manage his/her health related to primary care within the current health care system can include, for example:**

PowerEncounter—Manages physician encounters

MyReportCard—Evaluates health status and risks, and suggests steps for improvement

MyHealthBenefits—Health insurance calculator

MyQualityProvider—Evaluates patient satisfaction with his/her provider

MySatisfactionTracker—Measures satisfaction with physician encounters

MySatisfactionImprover—Provides recommendations to improve satisfaction

MyPharmacist—Medicine, pharmaceutical drug, prescription or other chemical remedy manager

MyLabTracker—Diagnostic or laboratory studies tracker

OurHealthHistory—Stores health and medical history and salient data from any of the tools herein

MyHealthAdvisor—Educational Materials for the Patient

MyMedicalRecords—Gather and store all provider medical records centrally

eSupplies, eEquioment and MyDurableMedicalEquipment-Allows purchasing and selling of new and used medical supplies or equipment between consumers, suppliers, payers, providers or manufacturers. It can connect to MyHealthBenefits and MyMSA

**Additional tools contemplated in the present invention and designed to meet specific specialty care or reimbursement needs include, for example:**

HealthyStart—Pregnancy and Fertility Health Care Tool

MyGeneticAdvisor—Prepares patient for genetic counseling session

MyMSA—Tool for Managing a Medical Savings Account

It is also contemplated that tools for specific medical concerns or needs such as allergies, tracking gerontological care and needs, or monitoring other health or medical conditions or predispositions to an illness are included in the present invention.

Examples of common illnesses of concern to many individuals today include, for example: diabetes, high blood pressure, risk of stroke, past family history of cancer, stroke, cardiovascular disease, hyperglycemia, elevated cholesterol, hypertension or mental illness.

**Additional tools which can be, if desired, second generation tools, contemplated to be provided by providers for use in conjunction with their patients include, for example:**

*CaringForOurselves*—An Acute Illness Self Care Tool

*LongtermCareForOurselves* - A Chronic Disability Self Care Tool

*StayingHealthy*—Disease Management and Preventive Care for Illness, susceptibility for illness or for a chronic Illness

*MyIndependentLiving* - An aid in helping a temporarily or a permanently disabled or handicapped individual determine or select individualized home care needs such as type of walker, wheelchair, nursing care, or other durable medical equipment, or determine level or degree of home health care need such as nursing care, occupational therapist, speech therapist, nutritionist, or assisted living care. It can document the need and can tie into *MyHealthBenefits* to submit reimbursement forms

*MyAppointmentMaker*-Requests, confirms, tracks and keeps appointments organized. For example, a patient needing an appointment for a physical. An appointment request can be sent to a doctor's office or other scheduling. This tool will automatically request an appointment and keep track of scheduled appointments. Multiple requests can be sent to more than one physician or health care provider or any other system used to track and calendar scheduled appointments in the provider's system. *MyAppointmentMaker* can be designed to interact with the patient's own calendaring system such as Microsoft Outlook

our the PalmPilot calendaring software and therefore, taking into consideration other scheduled events that need to be docketed around.

*MyMedical Supplies*- A tool which allows an individual to order and/or keep track of their person medical supplies such as disposable tubings, nutritional formulas, disposable gloves, syringes, etc...

*MyDurableMedical Equip*

A description of a set of tools and their functionality are shown, for example, in Figure 1.

There are currently 1.5 billion physician contacts per year in the US, most of them outpatient visits. *PowerEncounter* is a tool that helps patients prepare for and derive the most from today's short and often harried office visit. This office visit is the fundamental transaction in the delivery of health care. While many Internet health care companies are working to make the physician's back office operations more efficient, fewer are developing products to enhance the physician/patient relationship. Most of this latter group are tools for the physician. Our tools are the first that are designed for a patient.

*PowerEncounter* will take the patient through an orderly evaluation of the symptom or concern that is generating the physician visit. The top symptoms cited in physician office visit statistics have been identified, and will be available. Other can be added in the future according to demand. The tool is based on an algorithm that helps to clarify the presenting symptom and concerns that are generating the office visit. This algorithm is based on experienced clinician judgement and accepted standards of practice. After using *PowerEncounter* the patient will be able to walk into the office visit with a one-page summary of the all of the complaints and concerns for the visit, in order of priority to the patient. Any preventive or routine care needs will be noted. Finally, there is space provided for the patient or doctor to note answers to questions as well as suggestions for care. Upon returning home, the patient can enter the results of the visit and note any prescriptions, tests, or follow-up activity prescribed. *PowerEncounter* will prompt the patient to comply with these orders. *PowerEncounter* can also provide educational literature for the patient from the eHMO's website for the specific diagnosis

or condition identified. The tool does not practice medicine nor dissuade the patient from seeing the physician. It only works to enhance the productivity and quality of the encounter, benefiting both patient and provider, as well as payer. It can be used by any patient to prepare for a visit with any provider. There is also the potential for *PowerEncounter* algorithms to be adopted by medical groups for use exclusively with their patients, and customized appropriately. It will also give information based on the patient's insurance carrier of the degree of coverage for such a visit using *MyHealthBenefits*.

*MyQualityProvider* is a tool used after the visit to evaluate of the quality of the physician and the encounter. There will be several measures that describe physician attributes. The patient may prioritize attributes that they feel are most valuable to them, or they may use a standard set of attributes. Attributes evaluated centrally by the company would include board certification, history of complaints to the state medical board, history of disciplinary action, and adherence to identifiable standards of care. Attributes that could be provided by the user will include whether or not the provider listened attentively, how fast phone calls were returned, how expensive the visit was, how long did the patient wait, did they provide free samples of medicine, etc.

The data from *MyQualityProvider* will be available to other users of the eHMO, in order to assist in choosing a physician that scores high on the set of attributes that means most to them. At the same session, *MySatisfactionTracker* will guide the patient through an evaluation of his/her satisfaction with the visit, providing responses to specific measures of satisfaction and an overall satisfaction score for future reference.

*MySatisfactionImprover* will provide suggestions based on its own database for how the patient can have a more successful visit or improve the upcoming visit based on data from prior visits and accepted standards. The output from these programs can be shared with the provider or not, at the discretion of the patient. Also, if the patient wants to, the satisfaction information can be shared anonymously in a database of providers on the website. The above information will also be recorded in *OurHealthHistory*.

*My Medical Records* is a central index or table of contents that keeps track of where a patient's medical records are located (i.e. in which doctor's offices or hospitals). Upon request from the patient, the eHMO will send out requests for copies, and store them in a secure central location. These can be imaged so that the patient can access them at any time on line.

Since the tools will all store data electronically, information can be exchanged, for example, between a wide area network (WAN) such as the internet, a local area network (LAN), PCs laptops, mainframes, PDAs, fax machines or any combination of the preceding or any other digital transmission or storage device or in simple printed form. For example, *PowerEncounter* information could be transmitted at the time of the visit or in advance from one source to a second source, or from a "sender" to a "receiver" using a modem or a digital cable system, via satellite transmission, or any other method of transmitting digital information from one site to a second site.

Alternatively, *PowerEncounter* information could be transmitted at the time of the patient visit or in advance to the physician or office staff using e-mail, beaming from a Palm Pilot, via satellite transmission, or faxing a hard copy report. There is also a post encounter *PowerEncounter* algorithm that allows for entry of the information received from the encounter as well as the diagnosis and any treatment plans. It will tie into *StayingHealthy*, *HealthyStart*, *MyPharmacist*, and *MyLabTracker*

*PowerEncounter* also ties in with *MyHealthBenefits* to allow for an analysis of the cost of the visit based on the current plan. The user can query and see reports on health expenditures to date, what has been covered by insurance and what has not, whether the deductible has been met, etc. It can also compare the benefits for the visits or for the year, to other plans available to the user and family. It will suggest what plans might be more cost effective based on this experience as well as cumulative experiences for a prior patient-specified time period. It will also give some predictions of health care usage based on *PowerEncounter* as well as past encounters and other health information in *OurHealthHistory* and *MyReportCard* and help determine if a change in benefits is warranted. It will also ask questions of further health issues to allow more accurate

predictions of further health care use. Actuarial tables, for example, can be among the databases used to help in these calculations for these tools.

*MyReportCard* is a health risk assessment that evaluates the current health status of the user based on a combination of results from *PowerEncounter*, other data from *OurHealthHistory*, and a series of questions. The user can run *MyReportCard* as often as they like. The results will be stored in *OurHealthHistory*, so that health status can be tracked and improvements or declines monitored over time. *MyReportCard* will provide comparisons to age-matched data from national standards and recommendations, as well as other eHMO members, so that users know where they stand compared to their peers.

*CaringForOurselves* used in conjunction with *PowerEncounter* allows a patient to safely and proactively engage in his/her self-care. It will also remind the patient to maintain the suggested and agreed upon interventions and will track the course of the acute illness under self-care. It will prompt the patient to see if any new or more worrisome signs or symptoms have manifested and will suggest any changes in the self-care regimen or whether self-care should be abandoned and professional help sought. It will provide a diary of self-care measures employed that will feed back into *OurHealthHistory*, and if necessary, *PowerEncounter*.

*MyMSA* is a tool to maintain the patient and family's medical savings account. It will make sure the right amount of money is deducted from each person's salary and will keep an ongoing balance. Payments for various health related services will be monitored and tallied. It will be able to communicate with various software applications already available such as Quicken and Microsoft Money or other financial management programs or institutions. It is also envisioned that such a tool could compile and tally the information and submit the reimbursement electronically to the Managed of a Medical Savings Account. With its connection to *MyHealthBenefits* it can help decide what is the best use of health care dollars with respect to insurance reimbursement concerns.

*StayingHealthy* is a preventive health tool as well as a disease management tool for people with chronic conditions. It will prompt them to have various preventive interventions based on standards supported by the health insurance, medical group or

physician standard, national standards by various governmental USA or other national governments, various consumer advocacy groups or subspecialty or specialty organizations or other groups with vested interest in health. It will also record information about a person's chronic condition such as weight, blood pressure, blood glucose, peak flow meter or other data. It can also connect with electronic "monitoring" or measuring devices used to measure parameters such as weight, blood pressure, blood glucose, peak flow meter, uterine contractions, or other data. It will be able to connect with electronic devices that have the results digitally processed. It can also connect or link with payer or provider network or with a physician's office to allow instantaneous medical advice feedback. It will prompt either changes in treatment or whether to call the health care provider for input.

*HealthyStart* is a tool to help a couple manage their fertility and pregnancy. It will help monitor the menstrual cycle of family members and will predict fertility. It will also keep track of gestational age, developmental milestones of the fetus in formation appropriate weight gain and will prompt for recommended interventions as well as nutritional assessment.

*MyPharmacist* will keep track of the medicines, prescription and OTC, and supplements that the family takes. It will give an estimation of compliance and will prompt for refills to improve compliance. It will also tie in to *MyHealthBenefits* and *MyMSA* to give information on whether a drug or supplement is covered by insurance and will suggest formulary alternatives or less expensive drugs that may suffice. It will act like a pharmaceutical benefits manager for an individual. It will also deduct the cost of purchased medicines from the medical savings account in *MyMSA*.

*MyLabTracker* will keep an account of the various diagnostic tests performed, the location performed and their results. It will be able to download the information from various laboratories, medical offices and other testing facilities where stored in digital form. It will organize reports and graphs for the patient and his provider showing trends in tests like cholesterol, etc.

*MyGeneticAdvisor* reviews the personal and family history that is available in *OurHealthHistory* and will counsel as to whether genetic testing is in order for specific conditions. The eHMO will update the central database of new genetic tests regularly, so the family is notified when new tests that are pertinent to their family history are available. It will also be able to evaluate the patient's genetic profile when available in the future from genomic screening and testing, and predict which drugs may be most useful or what special screening tests or screening intervals with present tests are recommended given the genetic predisposition. It is the family's key to the future of genetic-based medicine, as it relates specifically to their needs.

The following is an exemplary description of how a user's "encounter" or interaction or use of the tools of the present invention would occur:

#### **Power Encounter**

The following is an explanation of how *PowerEncounter* works. See the schematic flow chart **Figure 2**, and the specific flow diagram for the cough symptom in **Figure 3**. The user or patient, for example, Patient "Jason Jennings" logs onto the eHMO web site, and enters his identification number and password. Jason has a cough, and has just made an appointment with his doctor, so he selects *PowerEncounter* from the buttons, and then is given a list of acute symptoms to choose from. The most common complaints will all be available. Jason chooses "cough", one of the most common complaints leading to outpatient visits. Four specific components of the invention will be used for this encounter:

- A. Jason's *OurHealthHistory* individual database, containing his background demographic data and all health data he has entered to date.
- B. The *PowerEncounter* software tool which consists of a list of symptom-specific questions and defined sets of possible responses. The next question asked is always dependent on the specific response provided. The questions and answers are based on accepted medical standards and evidence-based medicine

C. A database of prevention and wellness standards of care, also based on accepted medical standards and evidence-based medicine.

D. A written report generator, that has a defined set of possible reports to choose from to display the data and results.

**Upon selecting “cough” from a pull-down menu: (See Figure 1)**

1. A is automatically searched to see if all necessary background and pertinent demographic data necessary for the tool has been entered. If not, Jason will be prompted by input form to enter the missing data.

2. B begins by asking questions to determine if the problem is acute or chronic. Dependent on the answer, a specific set of questions will then be asked about the symptoms.

3. B asks Jason questions in a specific order. Answers are a defined set of responses on pull down menus. The next question is dependent on the response to the previous question.

4. Answers are also automatically fed into A, so that a complete record of today's symptoms and encounter preparation are stored in Jason's permanent health history.

5. At the end of the questions based the first complaint, B asks if there are any other complaints today? If so, B will guide Jason through another symptom-specific list of questions, prompting him with a defined set of responses.

6. At the end of all additional symptoms, B will finally ask Jason if there is any other reason for today's visit, or topics on which Jason would like information. These can be entered as free text, and prioritized by Jason, in case the visit doesn't allow time to discuss all of the concerns. Then, B is finished, and C automatically begins asking its questions.

7. C will first query its database for the current prevention and health recommendations for a person with the age and demographic background of Jason. It will then compare that list to the data stored in A, and print a list of all recommendations, noting which have

been performed and which are outstanding and should be performed either at this visit or in the near future.

8. When B and C are complete, D will prompt Jason to see if he would now like to print the information for him and his physician. Jason chooses a simple one page summary, with the following points:

- Jason's pertinent demographic data
- All of the reasons for today's visit
- A list of well-defined symptoms relating to each major complaint
- A list of the prevention/routine care recommendations for Jason, and the status of each.
- Space for Jason or his doctor to write prescribed actions, tests, and/or medications, as well as any follow up items needed.

1. D will also prompt Jason to see if he would like to print out any of the other reports available such as:

- Summary of Jason's health history
- Summary of other occasions of the same symptoms
- Detailed listing of all or specific previous encounters
- Medicines or lab tests prescribed during a specific time period

1. Jason takes the reports with him to visit the physician. He uses one copy of the report to keep the visit on track and record answers to his questions, and provides a copy of the report for the physician to use and keep for his records.

2. Jason returns home after the visit, and enters any conclusions of the visit, plus any tests, prescriptions, or activities prescribed by the doctor. *PowerEncounter* will automatically update *OurHealthHistory* with the results of the visit. The software will e-mail Jason periodically with reminders about compliance. Jason can also run any of the

other tools at this point, such as *MyReportCard*, to see how the visit results have affected his health status, or *MySatisfactionTracker* to evaluate the quality of the visit.

### **The Business Model Systems and Methods**

Included in the present invention are, for example, the following business models for the eHMO:

- **A business to consumer model** – The eHMO can charge its users on either a per transaction use, or a monthly or annual subscription basis for use of some or all of the tools available on the website. These fees can be paid by either the individual users, or by group sponsors such as employers, unions, affinity groups (e.g. AARP) insurance companies, HMOs, or financial services companies.
- **A business to business model** – The tools can be sold to existing ISPs, websites, portals, providers, hospitals, HMOs, insurance companies, unions, employers, demand management companies, disease management companies, telephone advice companies, MSA providers, software companies, etc. who want to add patient self-management tools to their Internet or intranet sites. The eHMO can operate and maintain the tools and databases behind the scenes. The company will charge the providers on a per transaction, per member, or per month basis, or some combination thereof. In this way, the company would be an OEM for the product for potentially many service providers. Each such service provider may wish to customize the tools and data to differentiate themselves from others, and to meet the specific needs of their users.
- **An infomediary model** – The tools will be provided through either 1 or 2 above, but revenue would also be generated through playing the role of infomediary between the users of the services and consumers of user information, such as providers, payers, manufacturers (e.g. pharmaceutical companies), etc. The eHMO would be the infomediary providing the summary information in or targeted buying opportunities in a confidential manner to individual users. The infomediary would act to insulate individual users from purchasers assure the confidentiality of their identity.

- **The new HMO model** – The tools would be used as a front end to a new health *management* organization (taking the place of the old style health *maintenance* organization) providing health insurance and proactive management to a defined group of members. In this way, the new eHMO would take responsibility for all health care expenditures for its members, and use the tools as an interface to improve individual member health and control costs.

The foregoing description of the preferred embodiments of the invention has been presented for the purposes of illustration and description. It is not intended to be exhaustive or to limit the invention to the precise form disclosed. Many modifications and variations are possible in light of the above teaching. For example, the term “symptom” is intended to encompass any physical, mental, or other presentation or indication of a medical or biological condition, including but not limited to presently known medical illnesses, diseases, predispositions or clinical presentations. Indeed, various modifications of the invention in addition to those shown and described herein will become apparent to those skilled in the art from the foregoing description and fall within the scope of the invention.

The invention is also not limited to being used for content distributed across the Internet or an Intranet. Rather, the invention may be used across a wide variety of computer and communications networks. The invention and the tools disclosed can also be used by a patient, a provider or a payer. For example, the tools and data could be accessible or used by a payer or a provider. The provider or payer can be of or for a medical service, information or supplies. Therefore, the invention can be used in a business-to-business model as described herein.

It will be appreciated that the term “present invention” as used herein should not be construed to mean that only a single invention having a single essential element or group of elements is presented. Rather, each novel and nonobvious element constitutes a separate invention. Further, each novel and nonobvious combination of elements enabled by the present disclosure, whether the individual elements therein are old elements, new elements, or any combination thereof, further constitutes an additional separate invention.

## Example 1

Pull down symptom menu...I Have A Cough!

Since no prior HA filled out then asks...Name --*Jason Jennings*

If already filled out pre-populates

BD—*5/21/1968*

Gender—*Male*

Is this an acute problem?—*Yes*

For how long?----*1 week*

Do you smoke?-----*Yes*

What type?---*cigarettes*

How many per day on average?—*1/2 pack*

For how many years?—*16*

Do you have:...*Hayfever*

Are you ...*Sputum*

*Brown*

*Scant amount*

Do you have runny nose...*Yes*

Do you have face/sinus pain?...*Yes*

Is it worse when you bend over?...*Yes*

HA database (not necessarily displayed)

Demographics:

Jason Jennings

Male

Date of Birth *5/21/1968*

Address...?

Tele H

Tele W

Mobile

Pager

Email1

Email2

Web Page

Occupation...?

Marital Status...?

Past Medical History

Allergic Rhinitis

Past Surgical History...?

Medicine Allergies...?

Medications...?

Family History...?

Social History...*see Demographics*

Health Habits

Cigarette use  $\frac{1}{2}$  ppd 8 pack year history

ETOH...?

Recreational Drug use...?

HIV Risk Factors...?

Seatbelt use...? Etc....

Health Maintenance

Cannot recall last BP check

Had cholesterol screen at work January 1999 164mg/dl

Wt 150 Ht 5' 10"

Never had pneumovax

Never disc smoking cessation, etoh, drug, hiv RF or seatbelt and helmet use

*Physician (or Provider) Printout*

*The blue is populated from the Power Encounter program data base.*

*The red derives from the visit*

Mr Jason Jennings's Concerns this visit:

1. Cough
2. Allergies
3. Smoking
4. Pneumovax
5. Health Maintenance check

BP 120/80 P\_\_\_ T 99.8 RR\_\_\_ WT 150 HT 5'10" Smoker Y

Jason Jennings is a 32yo male smoker with PMHx of Allergic Rhinitis who presents with 1 week of cough productive of scant brown sputum without fever or SOB, with nasal congestion and face pain worse bending over.

His other problems include:

Allergic Rhinitis for 10 years

Cigarette Use ½ ppd 8 pack year history

Allergies to Medicines

Penicillin causes rash

Medications

Nyquil

---

---

Other

---

---

---

Health Maintenance

Blood Pressure 120/80

Cholesterol 168 January 1999

Pneumovax

ETOH use

Recreational Drug use

HIV Risk Factors

Seat Belt and Helmet use

*Patient's Printout*

My Concerns this visit:

1. Cough
2. Allergies
3. Smoking
4. Pneumovax
5. Health Maintenance check

I have 1 week of cough. I cough up scant brown sputum. I have no fever or SOB. I have nasal congestions. I have face pain worse when I bend over. I smoke. I have allergies.

---

---

---

Diagnosis and Treatment Plan

Sinusitis and allergic rhinitis

Stop Smoking! Go to stop smoking class this Wednesday 8 pm and use Zyban 1 pill twice a day. Take sepra 1 pill twice a day for 10 days and take Tavist-D 1 pill twice a day

---

---

---

*After discussing the above symptoms with your Physician or Provider then remember to discuss the following?*

I smoke. Is there some help I can get to stop?

Go to stop smoking class this Wednesday 8 pm and use Zyban 1 pill twice a day

---

---

---

I have Hay fever (Allergic Rhinnits). What can I do for this?  
Stop Smoking! Take Tavist-D 1 pill twice a day

---

---

---

---

What is my blood pressure? 120/80 Is that OK?  
Yes

---

---

---

---

I had a cholesterol of 168 January 1999. Is that OK? Yes

---

---

---

---

Pneumovax?  
I was vaccinated at visit

---

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---

---

Can we discuss Alcohol and recreational drug use?  
2 beers twice a week  
No recreational drugs

---

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---

---

Risk factors for HIV?  
Use Condom regularly

---

---

---

---

SeatBelt and Helmet use?  
No Problems

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---

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## **Post Encounter**

Patient enters into program the following values from visit:

BP

Med Allergies

Medications

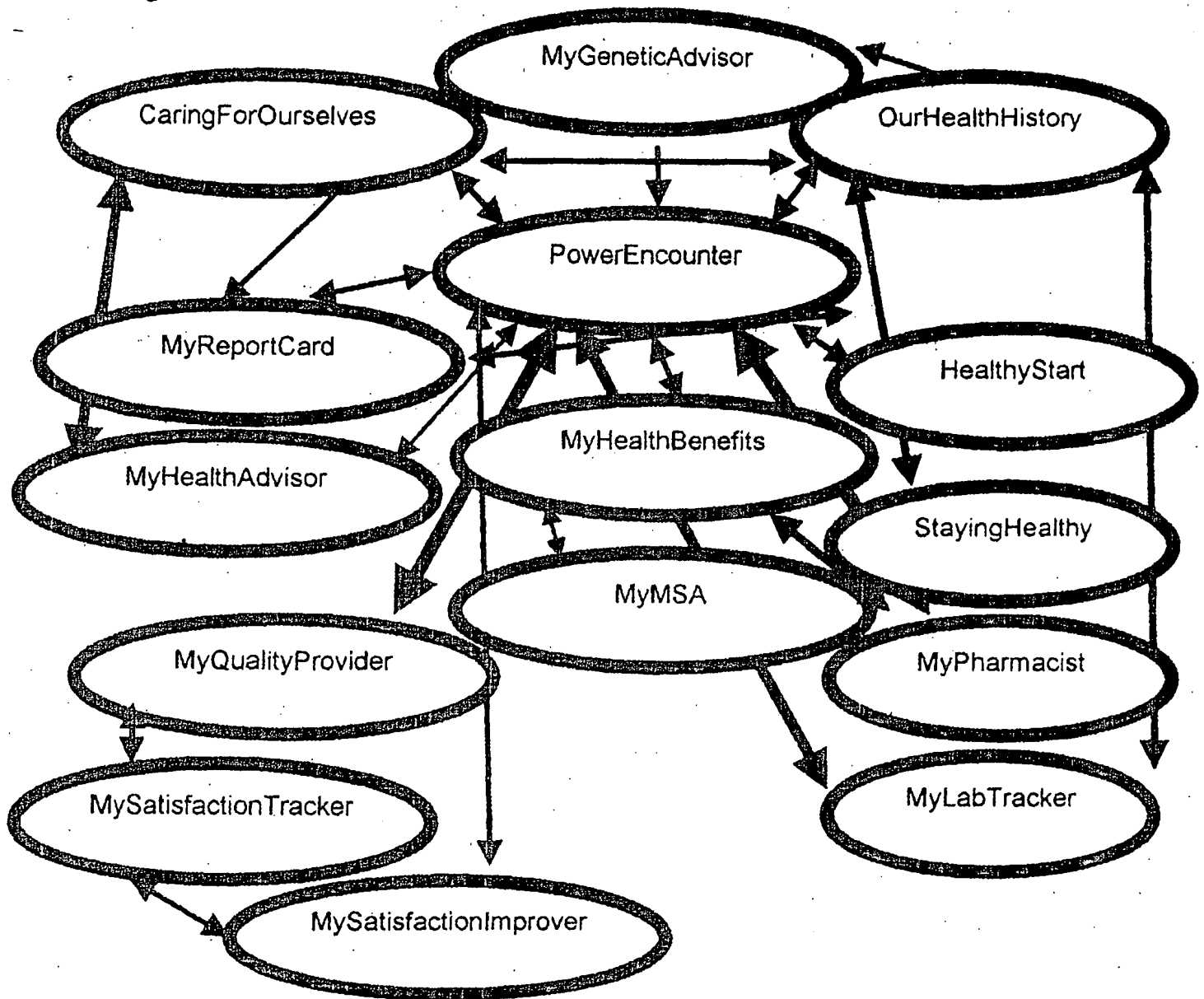
Etoh use

Pneumovax

Diagnoses

Treatments

**Figure 1 - Overall View of the Tools**



**Figure 2 - General flow of questioning and sources of information for PowerEncounter (see legend on next page for color meaning)**

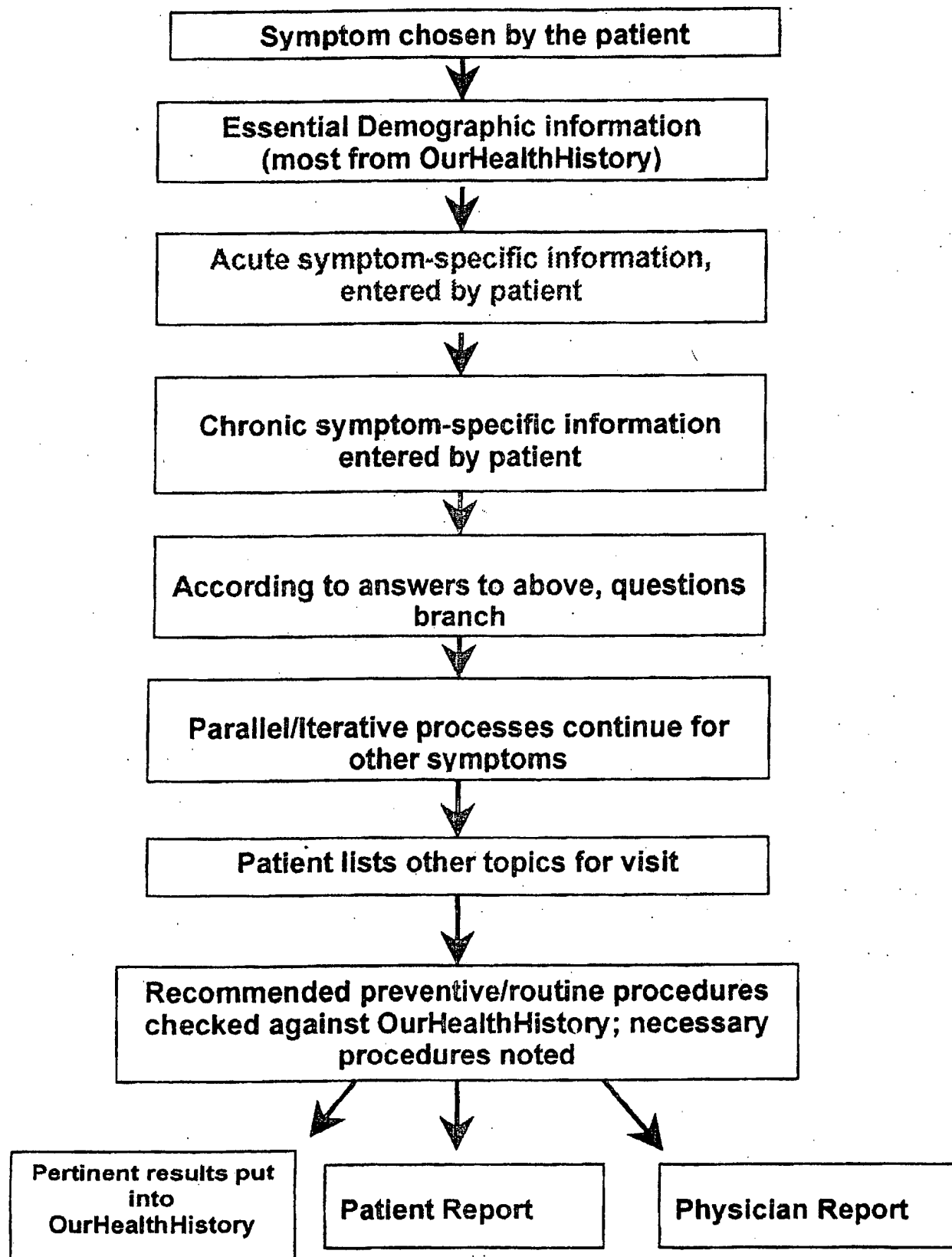
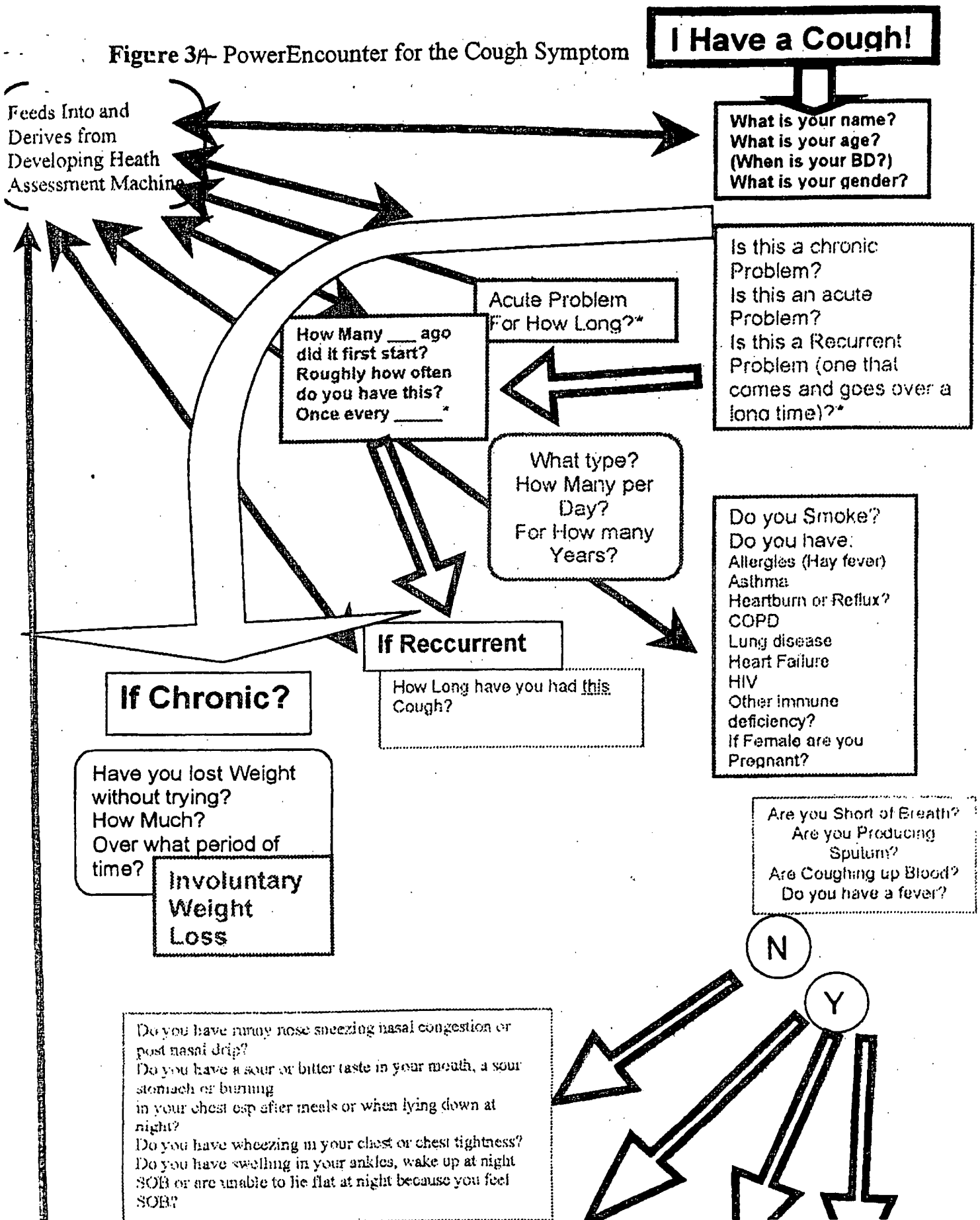


Figure 3A- PowerEncounter for the Cough Symptom



(continued from above arrows)

**SOB**

**Coughing  
Up Blood**

**Sputum**

**Runny nose  
or  
congestion**

If - PMHx for  
asthma or AR

Do you have:  
Wheezing?  
Chest Tightness?  
Hx of Eczema?  
Family Hx of  
Asthma AR and or  
Eczema?

A teaspoon full or  
Greater each time?  
Clots?  
Scant Red Blood?

What Color?

Click all that  
apply

Clear  
White  
Green  
Yellow  
Brown

A teaspoon full or  
Greater each time?

Y/N

Face or Sinus  
Pain?

Y/N

Worse  
Bending  
Over?

Y/N

**\* Needs Nonsense Filter**

**Health Maintenance for a 32 y.o. male smoker:**

When was your last BP check? \_\_\_\_

What was the reading? \_\_\_\_

When was your last Cholesterol check? \_\_\_\_

What was the reading? \_\_\_\_

Current Wt and Ht

Have you ever had a pneumonia shot?

When did you last discuss with you doctor:

Smoking cessation?

Alcohol use?

Recreational drug use?

Risk factors for HIV?

Seat belt and helmet use?

**LEGEND:**

Blue = demographic information asked for any symptom

Green = acute symptom-specific questions

Black = chronic problem-specific questions

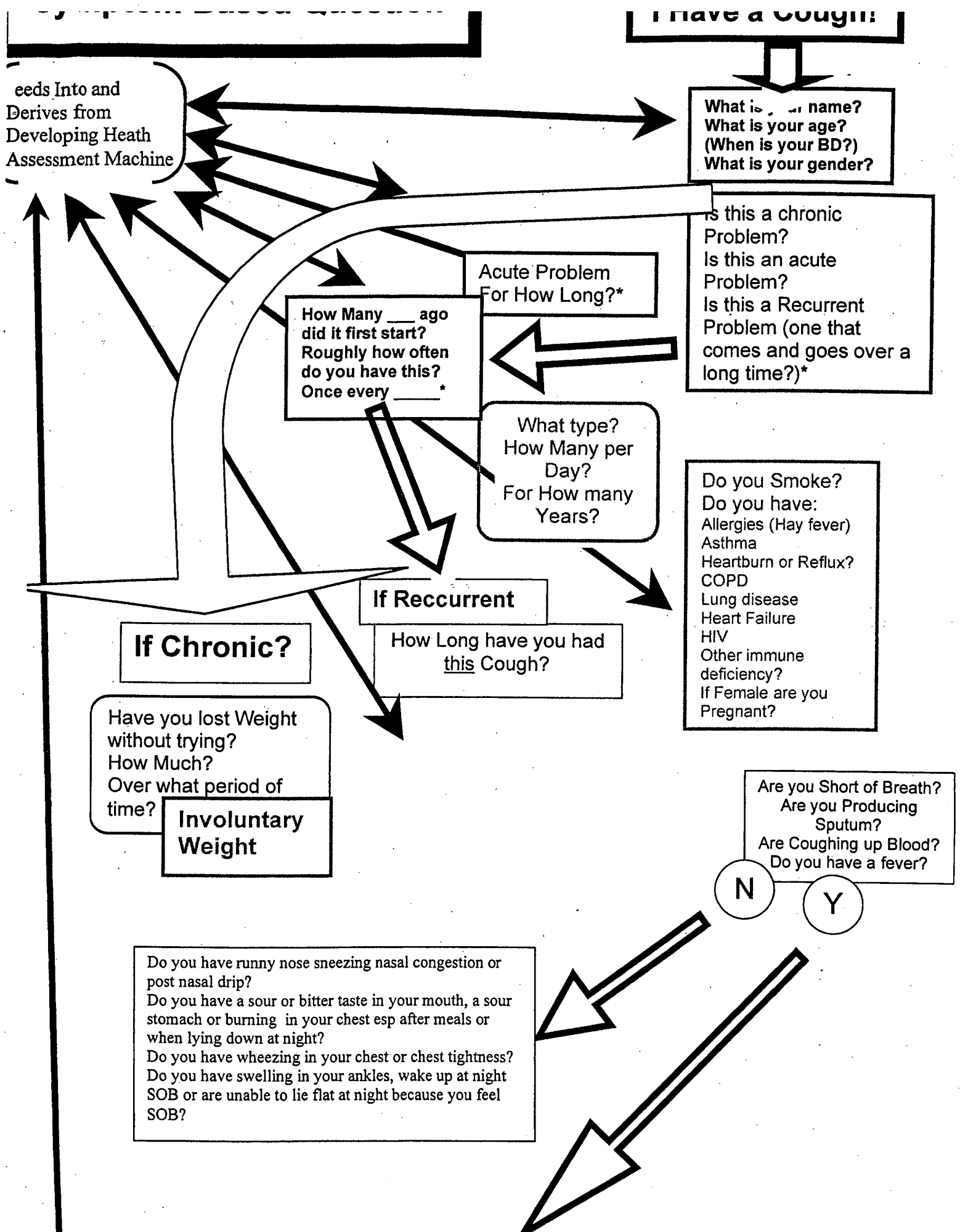


FIGURE 3 ANIMATED

**SOB**

If – PMHx  
for asthma  
or AR

Do you have:  
Wheezing?  
Chest Tightness?  
Hx of Eczema?  
Family Hx of  
Asthma AR and or  
Eczema?

**\* Needs Nonsense  
monitor and Corrector**

**Coughing  
Up  
Blood**

**A teaspoon full or  
Greater each time?  
Clots?  
Scant Red Blood?**

**Sputum**

**What Color?**

Clear  
White  
Green  
Yellow  
Brown

Click all that  
apply

**A teaspoon full or  
Greater each time?**

Y/N

**Runny  
nose or  
congestion**

**Face or Sinus  
Pain?**

Y/N

**Worse  
Bending  
Over?**

Y/N

Health Maintenance for a 32 yo m smoker  
When was your last BP check? \_\_\_\_  
What was the reading? \_\_\_\_  
When was your last Cholesterol check? \_\_\_\_  
What was the reading? \_\_\_\_  
Current Wt and Ht  
Have you ever had a pneumonia shot?  
When did you last discuss with you doctor:  
Smoking cessation?  
Alcohol use?  
Recreational drug use?  
Risk factors for HIV?  
Seat belt and helmet use?

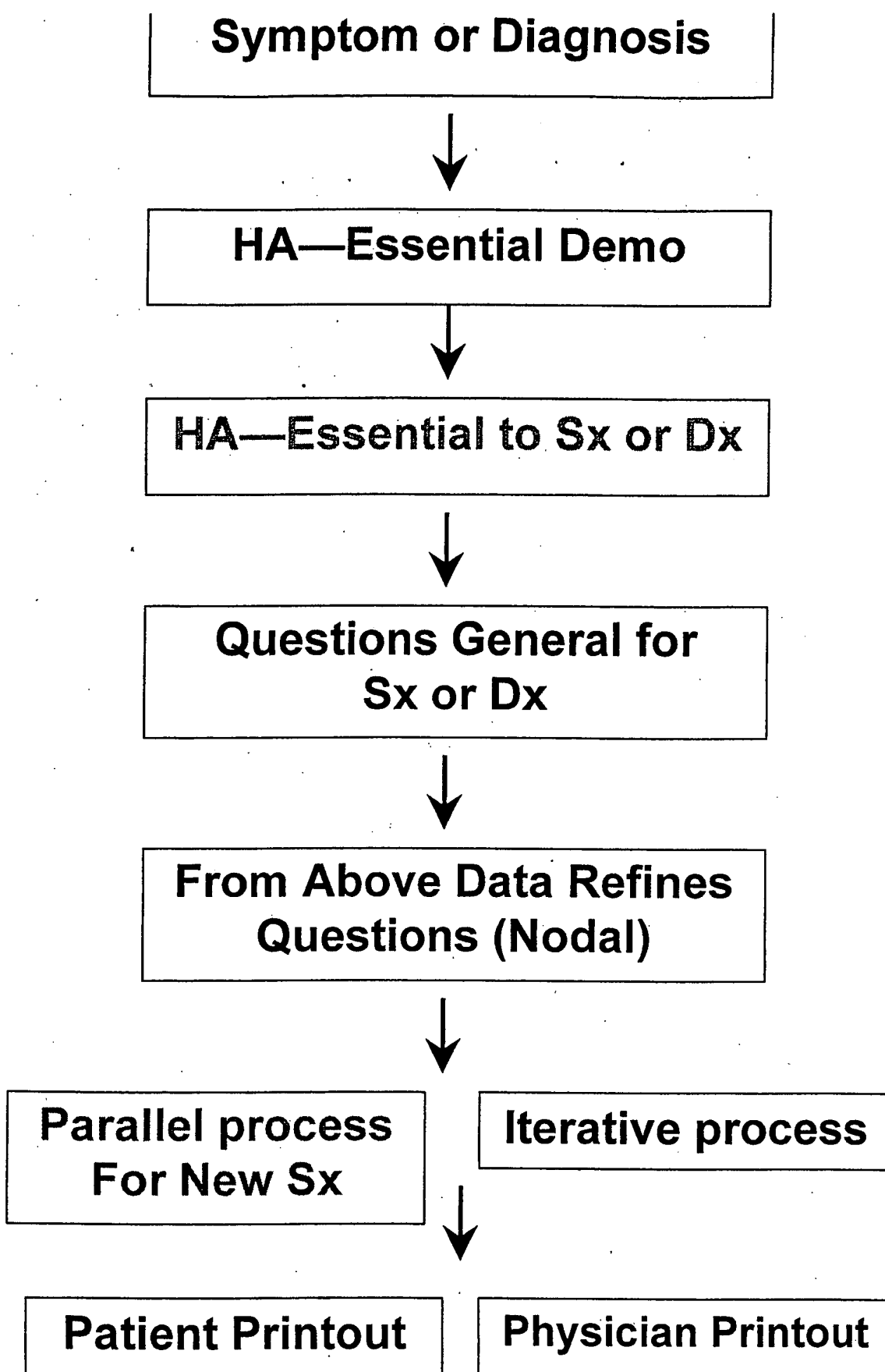


Figure 4

## WHAT IS CLAIMED IS:

1. A method for electronically managing the healthcare of an individual comprising:  
registering a user, said registering including collecting information from the user regarding personal profile information including health or medical data; and  
storing the collected information on an electronic storage device accessible by the user.
2. The method of claim 1 wherein the electronic storage device is a centralized database.
3. The method of claim 1 wherein the user is a patient.
4. The method of claim 1 wherein the user is a payer or a provider in the health or medical industry.
5. A method comprising the steps of:  
using an electronic device to input a personal profile information into a database;  
transmitting a query to the database or a provider of informational services, said query including accessing at least a subset of said profile information from the database;  
determining that said information subset corresponds to a particular record within said database; and  
obtaining from said provider of informational services a report or assessment based on medical information associated with said record.
6. The method of claim 5 wherein said user is a patient.
7. The method of claim 5 wherein said user is a payer or provider of medical services.
8. An electronic healthcare management system, comprising:  
a first receiver for receiving information from a subscriber;  
a transmitter which transmits a query to a database using said information from said subscriber;  
a second receiver for receiving a record of information from said database; and  
a manager for organizing or providing information based upon medical data associated with said subscriber in the database.
9. The system of claim 8 wherein the subscriber is a patient.

### **ABSTRACT OF THE DISCLOSURE**

A system or method for management of healthcare electronically which allows an individual user or a patient to access, input and receive personal information on-line is disclosed. Software tools that can be used by the patient allows the patient (consumer) to manage or control their individual medical concerns and personal medical information. The system allows for connection to a centralized or master set of data on all health care encounters, information or other medical needs. The system allows for use of its tools by a third party such as a payer or a provider.